

Patients' Understanding of their Heart Attack and the Impact of Exposure to a Media Campaign on Pre-Hospital Time



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Background

Patients with acute myocardial infarction (AMI) have a limited understanding of AMI symptoms and risk factors. This can lead to delays in the recognition of an AMI and hospital presentation. We aimed to assess patients' understanding of their AMI symptoms and risk factors and also assess the impact of exposure to a media campaign on their pre-hospital time.

Methods

We surveyed 100 AMI patients admitted to the Canberra Hospital. We asked them about their AMI symptoms and risk factors and the impact of the National Heart Foundation (NHF) advertisements on their AMI experience.

Results

Only 26% of patients recognised that they were having an AMI. In 34% of cases, an ambulance was called. There was no significant difference in the median pre-hospital time between patients who encountered the NHF advertisements and those who had not (133 minutes vs. 137 minutes, $p = 0.809$). Only 22% of patients could identify all of their personal AMI risk factors.

Conclusions

Most AMI patients do not initially recognise their condition nor do they call for an ambulance. Exposure to the NHF advertisements had no significant influence on reducing pre-hospital time in this cohort. Most patients have a limited understanding of AMI risk factors and causes.

Keywords

Acute myocardial infarction • Media campaign • National Heart Foundation • Risk factors • Pre-hospital time • Ambulance transport

Introduction

Treatment with percutaneous coronary intervention or fibrinolytic therapy within one to two hours of onset of acute myocardial infarction (AMI) can reduce AMI related mortality by 50% [1–3]. However, these benefits diminish with time delays [4]. Calling for an ambulance shortly after the onset of AMI symptoms reduces the time to treatment [5,6]. Therefore timely access to AMI therapies and a better prognosis depend upon patients quickly recognising their AMI symptoms and calling for an ambulance [7,8].

The pre-hospital time represents the time from AMI symptom onset to arrival at hospital [1]. Unfortunately, over half of AMI patients delay seeking medical care for greater than six hours and patient decision time is responsible for most of this delay [1,9]. Potential reasons for the lack of recognition of an AMI may be a poor awareness of AMI symptoms and lack of awareness of one's personal risk factors for AMI. Studies have shown that patients' awareness of certain AMI symptoms can be high, however, awareness of all AMI symptoms was lower [7,8]. Previous research has also suggested that patients lack knowledge regarding certain AMI risk factors

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such as diabetes and they also have a poor understanding of the cause(s) of their AMI [10–12]. Only a small proportion of patients knew to call emergency services in the event of an AMI [8].

Recently the National Heart Foundation (NHF) in Australia initiated the “Warning Signs of Heart Attack” media campaign which ran from 2008 to 2012. The campaign featured nationally and included television advertisements as well as radio, press and internet advertisements and fact sheets. This campaign aimed to raise awareness of AMI symptoms and to reduce the time taken for a person to recognise these symptoms and call an ambulance.

We aimed to investigate patients' perceptions of their AMI symptoms and their initial reactions following the onset of these symptoms. We also aimed to assess the impact of exposure to the NHF advertisements on pre-hospital time in our patients. Patients' understanding of the risk factors that may have contributed to their AMI was also examined.

Methods

Study Population and Setting

This was a prospectively conducted study which took place at the Canberra Hospital in Australia. Participants were patients ($n = 100$) admitted to the Coronary Care Unit (CCU) with a diagnosis of AMI between November 2011 to July 2012. All participants gave written informed consent to take part in the study.

Procedure

AMI patients were identified by the research team or CCU staff according to their admission diagnosis. The patients were

unselected but not in a consecutive manner due to the constraints of human resources on carrying out the study and we invited all patients regardless of age, gender, ethnicity or language to take part. Patients were approached within one to two days of admission, informed of the nature of the study and asked to give informed consent by signing a consent form. They then completed a survey with assistance from the research team or CCU staff. The research and nursing staff were advised to provide general assistance in filling survey questions, without suggesting answers to the patients. Patient records were accessed to determine demographic and procedural data including pre-hospital time. Anonymity of patients was maintained via the de-identification of patient survey responses and via the non-disclosure of patient specific information to individuals outside the research team.

Details of Survey

The survey included 14 questions, 13 of which were in a ‘tick-a-box’ format and one question which required patients to give a written response to the question, “What do you think was the main reason you had a heart attack?” These questions are summarised in Figure 1. Patients were asked about their AMI symptoms, whether they thought they were having an AMI and what action they took following the onset of their symptoms. Patients were also asked if they had encountered the NHF advertisements, whether these helped improve their understanding of AMI symptoms and whether these influenced their decision to call an ambulance. Patients were also asked about their cardiovascular risk factors, cigarette smoking status and weekly exercise frequency, and their opinion about how healthy their diet was. Other questions related to the risk factors that patients believed contributed to their AMI.

All questions are tick boxes apart from question 6 which was open-ended.
The tick options have not been included due to space limitations.

1. What did you experience when you had the heart attack?
2. Did you think you were having a heart attack?
3. What did you do next?
4. Have you seen/heard the heart attack warning signs advertisements from the National Heart Foundation?
 - a. If yes, then where had you seen/heard about the warnings signs?
 - b. Did the advertisements help improve your understanding of the warning signs of a heart attack?
 - c. Did the advertisements influence your decision to call ‘000’ when you experienced your heart attack symptoms?
5. Have you seen/heard any other sources of information (other than from the National Heart Foundation) informing you of what to do if you were having a heart attack?
6. There could be many causes for a heart attack. What do you think was the main reason you had a heart attack?
7. Have you had high blood pressure?
8. Have you had high cholesterol levels?
9. Do you have diabetes?
10. Is there a history of heart attack in your immediate family?
11. How healthy would you say your diet is?
12. What is your cigarette smoking status?
13. How often do you exercise?
14. Which of the following do you think may have contributed to you having a heart attack?

Figure 1 Survey Questions.

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